FORTUNE SYSTEMS

FORTUNE 32:16.
THE COMPLETE BUSINESS SYSTEM.

The Fortune 32:16™ is the most powerful and unique microcomputer in its price range. This new system combines the power and computing capability of a minicomputer with the ease of use, convenience and price of a microcomputer. The Fortune 32:16 fills a market-void between the powerful minicomputer, which is too costly and complicated for the small business user and the low-end personal computer, not powerful enough to meet the needs of the serious business and professional user or the department of a large corporation.

The Fortune 32:16 has been introduced with a wide variety of features heretofore unavailable in the microcomputer marketplace. Such features include an enhanced, easy to use version of the powerful UNIX™ operating system, a variety of built-in expansion options to facilitate easy upgrading, an internal storage capacity of up to one Megabyte of memory and eighty Megabytes of disk, support of a wide range of programming languages and data communications, true concurrent multi-user capabilities and a full complement of comprehensive, ready-to-use applications software programs. This built-in versatility and flexibility allows the Fortune 32:16 to function as a powerful stand-alone executive work station as well as a sophisticated multi-user or locally networked system.

The Fortune 32:16 microcomputer is also supported with a comprehensive maintenance and service system usually only associated with large minicomputer and mainframe installations. In addition to a national dispatch center and on-site maintenance program, Fortune Systems provides all users with an extensive documentation program, encompassing everything from initial system set-up to applications conversion and ready reference guides.

The combination of all these features, coupled with a modest price, make the Office of The Future an affordable reality today.

FORTUNE 32:16 HARDWARE

Packaged in an attractive, compact and lightweight case, all Fortune 32:16 systems include five memory slots, plus five interchangeable input/output option slots, a built-in flexible disk controller and serial asynchronous port, as well as a 230 Watt power supply. This modular logic cabinet can accommodate one or two 5¼ inch flexible or hard disk drives. Additionally, a full function detachable keyboard and 12 inch monochrome display come as standard features.

THE PROCESSOR

The Fortune 32:16 is based on the most advanced microprocessor available...the Motorola MC68000. This powerful processor gives the Fortune 32:16 its formidable computing power and flexibility through such features as 32-bit internal data and address registers, a 16-bit external data bus and a 16-Megabyte linear address space. The processor provides two separate modes of operation: supervisor mode and user mode. This feature protects multiple simultaneous users from interfering with each other.

MEMORY MANAGEMENT

A unique memory management unit assists the processor in maintaining security between system and user function. Attempts by user programs to access an address outside its memory area will interrupt the user program and transfer control to the operating system, which will abort the offending task and notify the operator. The memory management unit also allows multiple users to share the same applications program for efficient use of main memory.

MEMORY

The Fortune 32:16 memory consists of Read-Only Memory (ROM) and Random-Access Memory (RAM), both of which can be easily and economically increased to meet expanding needs. The standard 16 Kilobyte ROM firmware contains permanently resident software to handle a variety of functions, including hardware initialization routines, power-on diagnostics and error reporting, system verification and basic I/O driver routines. This feature, together with the additional Read-Only Memory included on

each I/O controller, allows the Fortune 32:16 to actually reconfigure itself automatically upon power-up and make the system ready for use within seconds.

Basic Random Access Memory of the Fortune 32:16 is 256 Kilobytes, which can be expanded in either 128 Kilobyte increments up to 512 Kilobytes, or in 256 Kilobyte increments to a powerful one Megabyte. Adding to the extreme reliability of the system, all memory comes standard with parity.

INPUT/OUTPUT CONTROLLERS

Three types of RS-232C bit serial communications controllers are available, thus adding greatly to the Fortune 32:16's versatility and flexibility. These controllers facilitate ease of growth from a single to multi-user system, as well as the attachment of various types of peripheral equipment.

Available controllers include a standard single four port asynchronous controller and an optional two or four port intelligent communications controller.

The standard asynchronous port permits easy, low-cost attachment
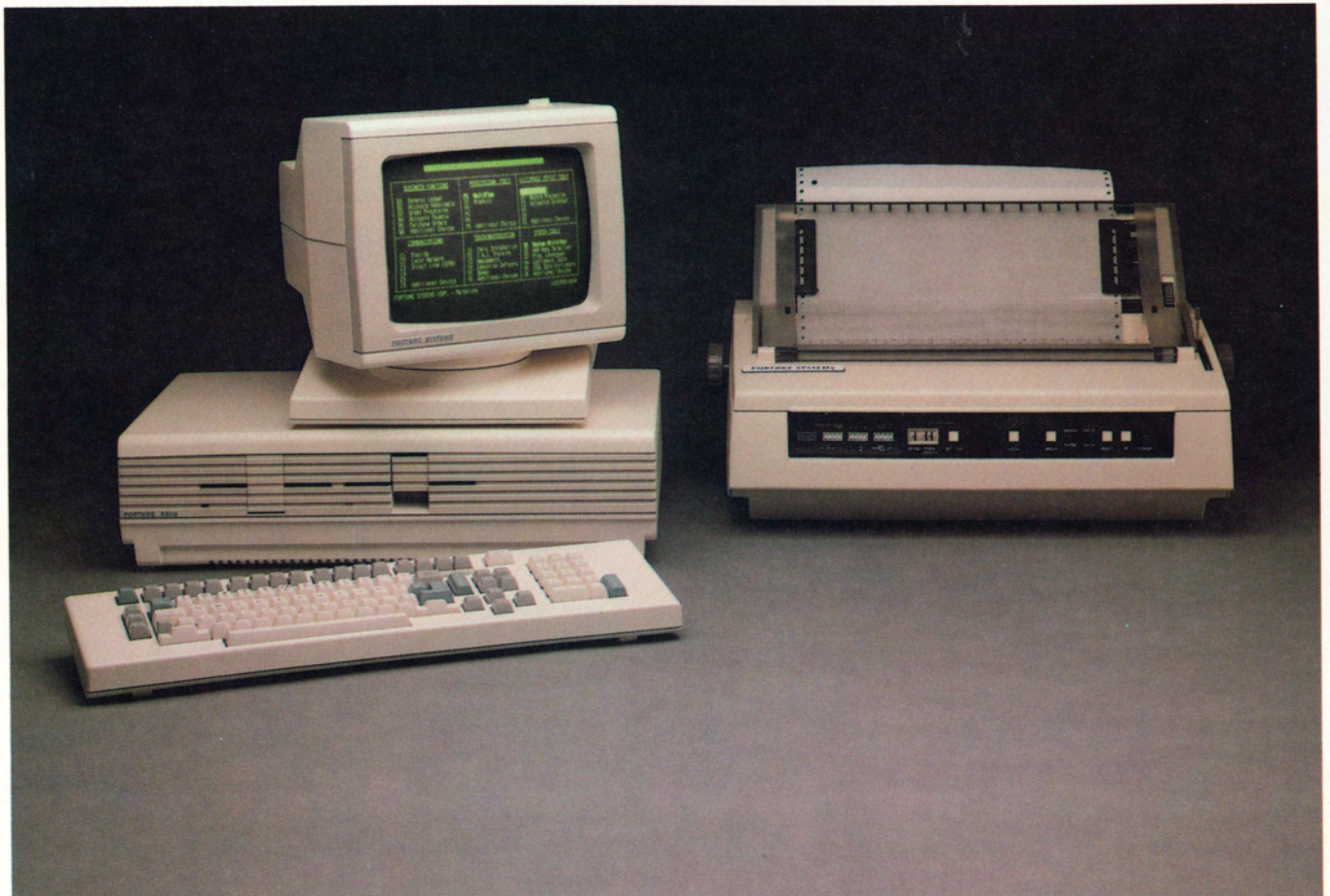
of many common peripherals, such as printers, modems and ASCII terminals. Up to 16 additional serial devices can be attached through installation of the four port asynchronous controller, or the two or four port intelligent communications controller. Designed specifically for general communications applications, the intelligent communications controller has its own Z-80B® microprocessor, buffer memory and interprocessor communications port to communicate with the remaining system, and is capable of supporting industry protocols such as 2780/3780, 327x and SDLC.

The Fortune 32:16 can be applied to an even wider range of sophisticated business and scientific tasks through an optional one or two port parallel I/O controller, which can either function as an industry standard (Centronics) printer interface, or as an IEEE-488 General Purpose Interface Bus. This option allows the attachment of high speed printers, plotters, laboratory instruments and many other peripheral devices.

In addition, an optional Ethernet™ controller makes the connection to the Ethernet local networking system possible.

MAGNETIC DATA STORAGE

The Fortune 32:16 has a substantial amount of internal storage and built-in expansion capacity to meet the requirements of a small business and a corporate department alike. Up to two 5¼ inch flexible disk drives or 5¼ inch Winchester hard disk drives can be installed inside the logic cabinet. Flexible disks are double sided, double density, 96 track-per-inch with a formatted capacity of 800 Kilobytes. Winchester hard disk drives provide dramatically expanded capacity of 5, 10 or 20 Megabytes.

The flexible disk controller can support up to four drives with a maximum capacity of 3.2 Megabytes, while the Winchester hard disk controller can support up to four stepper motor positioner drives. An optional voice coil actuator SMD hard disk controller, which allows the attachment of high capacity 8 inch and 14 inch drives, is also available. This high performance controller has a separate microprocessor which significantly increases data transfer rates.

VIDEO DISPLAY

The video display is housed in its own modular unit and can be adjusted horizontally and vertically for operator convenience. The standard display features a high resolution 12 inch green monochrome screen. An optional 13 inch color monitor for high quality graphics requirements is available as well.

The standard video display controller provides a subset of the AT&T videotext character set. Using a 9 x 20 dot matrix, 288 different characters can be displayed in 24 rows of 80 characters, including upper and lower case ASCII characters and special word processing and graphic symbols.

Two options may be added to the standard video display controller. First, a bit-mapped graphics display controller with its own 64 Kilobyte memory provides 640 x 480 and 800 x 480 high resolution
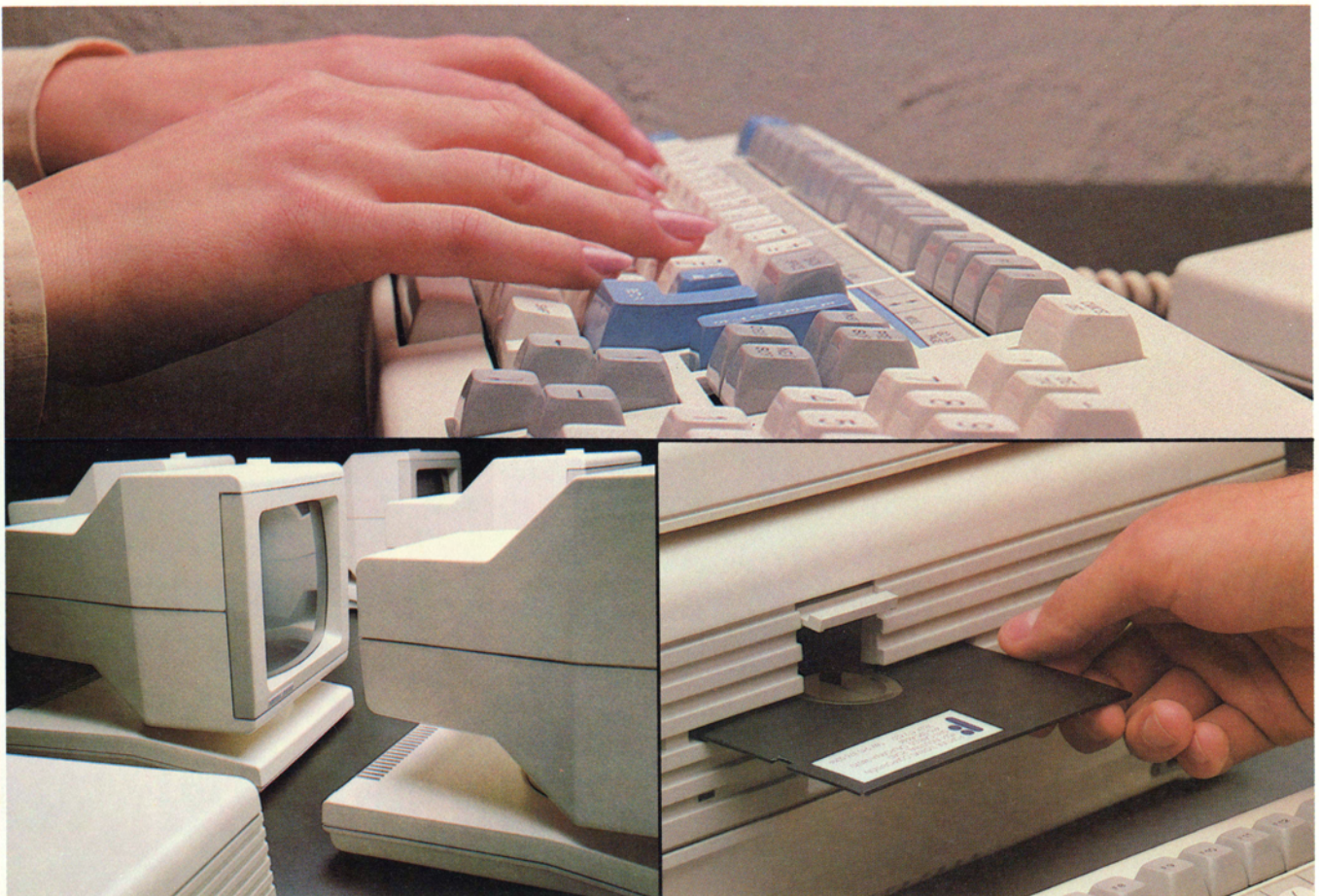
graphics on the standard 12 inch monochrome display. The second option provides additional memory (256 Kilobytes total) and a second MC68000 microprocessor which is used to drive either the monochrome or color display. This option allows the operator to select 16 colors from a palette of 512 with resolutions up to 1024 x 1024 in the pan mode.

KEYBOARD

A full function keyboard attaches to the system with a six foot coiled cord. The keyboard's 99 keys are divided and color coded into individual groups, including a standard typewriter format, a 15 key numeric pad for rapid data entry, a 9 key cursor control pad with text editing functions, a set of commonly used system level function keys including HELP and CANCEL, and 16 programmable function keys which are automatically controlled by applications software for user convenience.

As with all other external components of the Fortune 32:16, human engineering considerations have played a major role in the physical design of the keyboard. Such attention to detail is evident in the choice of overall color (to reduce eye fatigue), color coding of various groups of keys (for easy visual identification) and the varying mounting angles of rows of keys (to reduce hand and arm fatigue).

FORTUNE PERIPHERALS

The Fortune 32:16 supports a wide variety of optional peripherals. Peripheral equipment available directly from Fortune Systems include local and remote intelligent work stations and a full range of letter quality and dot matrix printers with varying printing speed and forms handling options. Dot matrix printers also provide the capability to print graphic displays from monochrome or color graphics programs.

The Fortune Operating System is based on the powerful UNIX operating system developed by Bell Laboratories for use in minicomputer and mainframe installations. UNIX has been modified and enhanced by Fortune Systems software engineers for ease of use, while still providing minicomputer power and versatility.

The Fortune Operating System supports single-user, as well as full multi-user requirements for interactive applications and software development.

The single-process operating system is a 64 Kilobyte modified UNIX monitor, which allows the running of applications with as little as 256 Kilobytes of memory on a flexible disk system. This system provides an efficient solution for entry level applications which do not need the capabilities and disk requirements of a multi-user operating system. As needs grow, the applications software can be moved without change to a multi-user system, thereby protecting initial software investments.
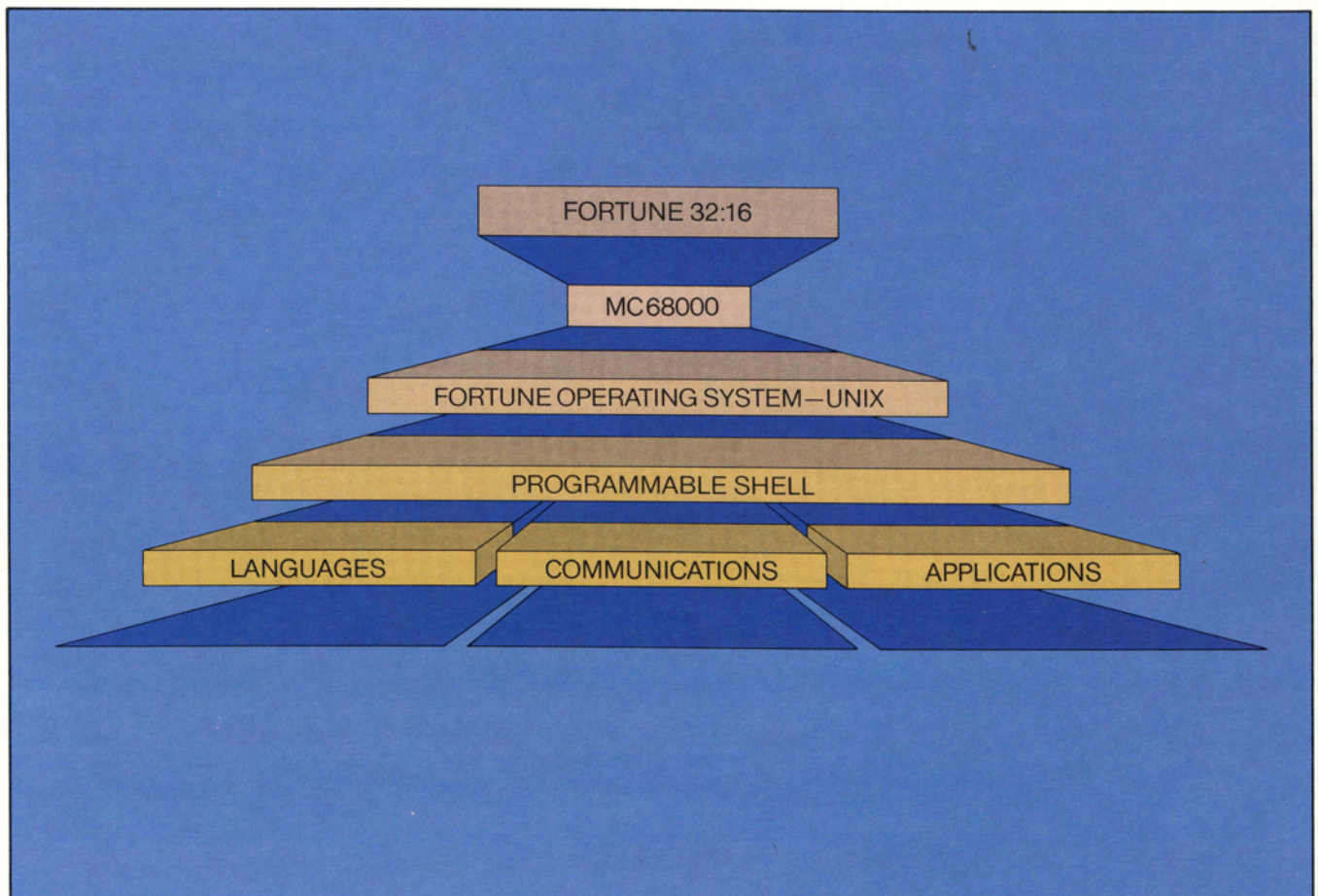
FILE MANAGEMENT

Efficient file management is a prominent feature of the Fortune Operating System. This file system is hierarchical and allows essentially unlimited nesting. Files can be dynamically created, deleted, updated or expanded. File, page and individual record locks protect file integrity, while still allowing access to remote files and peripherals.

Additionally, efficient buffering for disk references is provided automatically. This feature allows frequently used disk pages, or the next pages of a sequential file, to remain in fast semiconductor memory, a feature which provides substantially enhanced system performance.

User developed device handlers can be added to the operating system to accommodate special applications requirements, thus allowing access to non-standard devices via a serial port, IEEE-488 bus or Ethernet controller.

SHELL

Fortune Systems has significantly enhanced UNIX by developing a user-friendly shell which interacts with the operator at the video display and keyboard. This shell provides easy to read menus and prompts for the selection of specific application functions. Since the shell is a normal application-level program, various environments are automatically selected when the user logs onto the system. Concurrent users may use different shells, as may users of different systems in a network. Through this feature, business computing environments can be tailored to the requirements of various departments or users within the same company.

NETWORKING AND COMMUNICATIONS

The Fortune 32:16 microcomputer can support a variety of communications and networking environments:

ASYNCHRONOUS COMMUNICATIONS

Asynchronous communications capabilities are provided via two different programs, Interactive Terminal Emulator (ITE), and Fortune-To-Fortune (FTF).

ITE allows a Fortune user to interact with another system emulating a model 33TTY or standard ASCII terminal. This can be done interactively or in batch mode by specifying a file name to be transmitted or received.

FTF allows networking of Fortune and other UNIX-based operating systems, using full duplex asynchronous lines. A CRC-validated block transmission is used for validation of transmitted files. This program also allows the user to execute applications on other UNIX-based systems.

BISYNCHRONOUS COMMUNICATIONS

Bisynchronous communications options include emulation of IBM 2780/3780, 3741, 2968 and 2770 terminals with the ability to transmit data, using an RS-232C interface at speeds of up to 19,200 bits per second. IBM 327x bisynchronous and SDLC communications, as well as multi-user pass through using Fortune COBOL, are also supported.

LOCAL NETWORKING

With an optional Ethernet controller, the Fortune 32:16 can utilize the Xerox/DEC/Intel baseband net
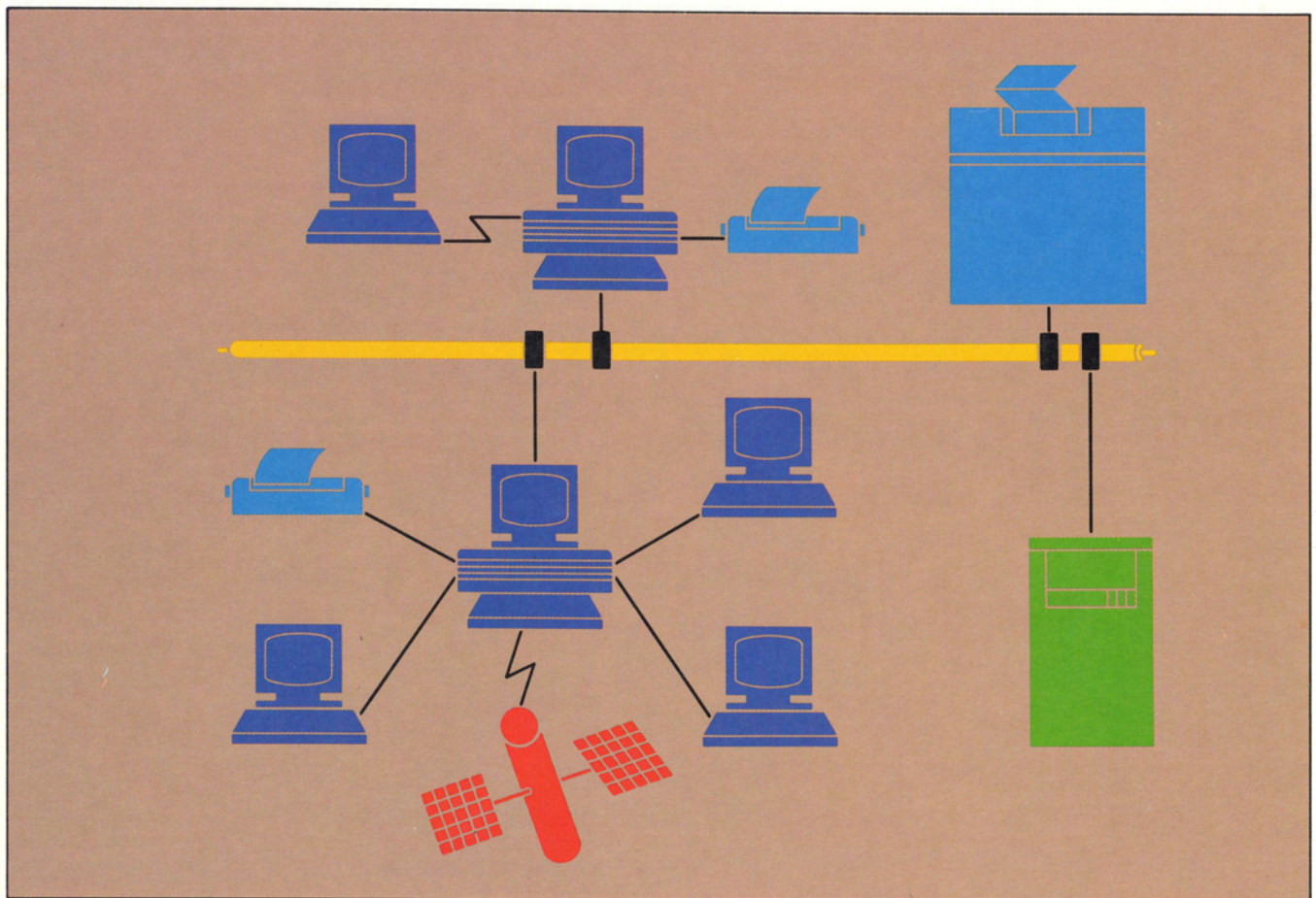
working standard. Connection to the Ethernet coaxial cable allows the Fortune 32:16 to participate in a newly established or existing network.

With its numerous networking and communications capabilities, the Fortune 32:16 can directly participate in a variety of system configurations and in local and remote distributed data processing environments. Remote diagnostics are supported as well via acoustic couplers and direct modem attachments which significantly increase ease, availability and speed of maintenance and service.

Support of a multitude of high level programming languages, reinforced by numerous utilities and development tools, further add to the Fortune 32:16's versatility and applicability to a wide range of business, professional and scientific tasks. Industry compatible versions of BASIC, COBOL, FORTRAN, PASCAL and C permit the conversion of applications from other systems, as well as new software development.

BASIC

BASIC has for many years been the most widely used language for microcomputer programming and many different versions have evolved to meet specific requirements. After considerable research aimed at supplying the broadest scope of proven applications to the serious business user, Fortune Systems has chosen SMC Business BASIC as best suited for the Fortune 32:16. This language is compatible with Basic Four® Business BASIC III which has been widely used for the development of a large base of existing applications software.

In order to allow the user to draw on an even broader supply of proven applications programs, Fortune Systems has also developed a set of filters which automatically translate applications written in other BASIC "dialects" into the Fortune Systems Business BASIC. Conversion filters are available for Applesoft™ BASIC, Microsoft™ BASIC, Radio Shack® TRS-80™ BASIC and CBASIC.™

COBOL

Developed under the auspices of various U.S. Government agencies, COBOL was originally developed for computer to computer compatibility, and to provide users with a common English language-based framework for program development and applications in the commercial world. Fortune Systems' COBOL is a true high-intermediate ANSI 74 compiler with many enhancements. For instance, an input screen generator and a 327x-type pass through feature have been added. Fortune Systems' COBOL is comparable to those usually only available on mainframes.
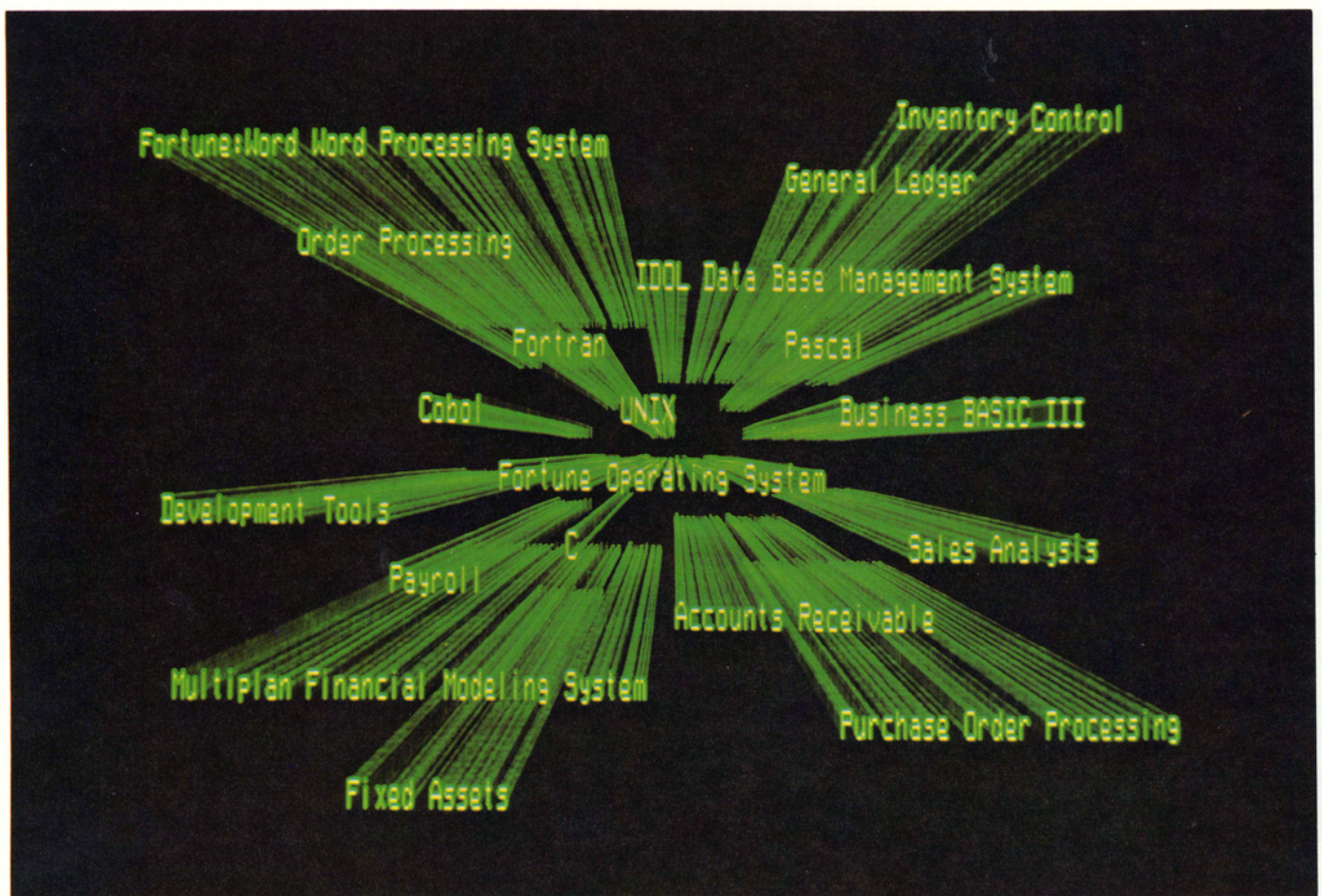
FORTRAN

FORTRAN is especially well suited for solving problems that can be expressed as a series of numeric relations and algebraic formulas. Fortune Systems is offering a globally optimized FORTRAN-77 compiler which generates significantly more efficient code than the standard UNIX FORTRAN-77 compiler.

PASCAL

PASCAL is a general purpose programming language which is enjoying increasing popularity for its ability to support structured programming techniques. PASCAL is a very portable and easy to learn language. The PASCAL compiler offered with the Fortune 32:16 meets the new International Standard Organization guidelines, and is fully compatible with UCB PASCAL.™

C

C is the language in which UNIX is written, and therefore it has a special significance for the UNIX-based Fortune Operating System. Fortune Systems' efficient, portable C compiler has been highly optimized for use on the Fortune 32:16.

FORTUNE SYMBOLIC DEBUGGER

Fortune Systems is also offering a powerful professional source level symbolic debugger, which allows programmers to dynamically monitor a program while debugging. The Fortune Systems debugger is supported by all Fortune compiled languages, which facilitates ease of programming development.

APPLICATIONS SOFTWARE

While development of new and exciting business and professional applications software is an ongoing process at Fortune Systems, a full complement of versatile and cost-saving programs are available today:

—A fully integrated Business Accounting System including:

• Order Processing & Inventory Control
• Accounts Receivable
• Purchase Orders
• Accounts Payable
• Fixed Assets
• Payroll
• General Ledger

—IDOL® Data Base Management System
—Fortune:Word,™ the most powerful and versatile word processing system available in the marketplace
—Multiplan™ Financial Modeling & Forecasting
—Color or Monochrome Graphics

All of these programs are available as stand-alone modules or fully interactive packages. For example, charts and graphs generated with the Graphics application can be merged with text or documents produced with the Fortune:Word word processing program. And, since the Fortune 32:16 is a true multi-user system, different applications can be executed concurrently without interfering with each other.

These software programs, combined with the affordably priced Fortune Systems hardware, make the Fortune 32:16 a truly unique tool for today's complex business environment.

SERVICE AND SUPPORT

Fortune Systems' considerable expertise and careful attention to even the most minute detail are only a few of the many reasons which have placed the Fortune 32:16 in the forefront of the microcomputer industry.

This comprehensive approach extends into the areas of customer service and support as well. Fortune Systems customers are supported with a maintenance and service system usually only associated with large minicomputer or mainframe manufacturers.

All customers are offered an on-site maintenance agreement honored by Fortune's service organization, or they can receive comprehensive service and support through authorized service centers and depots, conveniently located in major metropolitan areas. Each service location is thoroughly supported with training, spare parts stocking, documentation and diagnostics to assure fast, reliable service. Fortune customers who wish to utilize their own in-house service organizations are provided with training, documentation,

diagnostics and other forms of direct technical support.

Additionally, a toll-free telephone number to a dispatch center is provided nationwide. Here trained service and support personnel are available to answer questions, effect remote diagnostics and dispatch service requests.

Software support services are of equal importance at Fortune Systems. A toll-free dispatch center is assisted by software specialists and support management, all of whom are highly trained in all aspects of Fortune Systems products. This extensive support service is available to corporate customers, as well as authorized dealers.
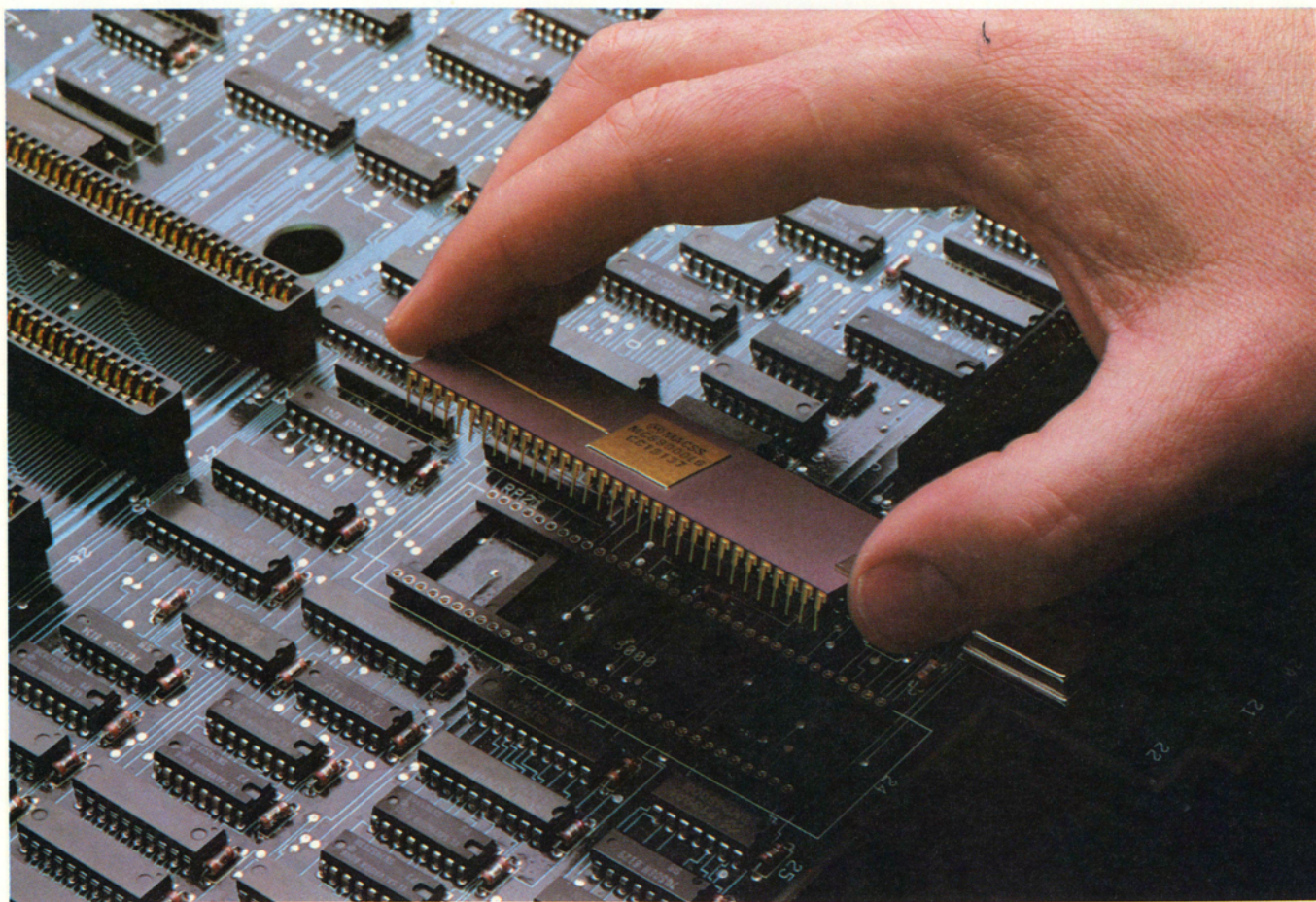
Additional end-user support is provided through a comprehensive set of user-oriented aids in the form of easy to read manuals and training disks. This painstakingly thorough documentation has been compiled by Fortune Systems education and publishing professionals, and encompasses everything from initial system set-up to applications conversion and ready reference guides, thereby making the Fortune

32:16 immediately productive for the novice operator.

Sophisticated and reliable hardware, the powerful and versatile UNIX operating system, a broad scope of programming languages and a full complement of advanced business applications software, coupled with a comprehensive service and support network make the Fortune 32:16 the most powerful and unique microcomputer available today.

New products and services are being readied to meet the increasing needs of the small business and the large corporate department alike. Such new products and services include complete office automation capabilities and aids, vertical market software, expanded application programs and new hardware products, designed to even further improve the Fortune 32:16's price/performance.

Fortune Systems makes the Office of the Future an affordable reality today.